

Work Order ID 147771

Tuesday, June 14, 2016 11:21:26 AM

147771

*Must be completed to ship
July 4th*

Page 1

Item ID: D412-742-011 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: URF 16-572 Stop ***NS2***
 Item Name: Skidtube Fits LH or RH High Gear, DART (Apical) & OEM Cylin. Float Compatible
 Start Date: 6/13/2016 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 7/15/2016 Req'd Qty: 1.00 ***1*** Customer:
 Reference: REWORK PER ECN 16-516

Approvals: Process Plan: MF Date: 16-6-14 Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____
 Run Start ***NR1***
 Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr	
IIN-D412-742	E	New labels + paper work SK 6/30/16

150 0.00
150
 QC 0.00
 Quality Control
 Memo
 PULL FROM STOCK D412-742-011 X 1 B116365
 REWORK PER DSI 9733-011
16-6-28

160 0.00
160
 Skidtubes 0.00
 Skidtubes
 Memo
 REWORK SKIDTUBE PER DSI 9733-011
16-6-28

170 0.00
170
 QC 0.00
 Quality Control
 Memo
 QC5- Inspect part completeness to step on W/O
16-6-28

DART			
1270 ABERDEEN ST HAWKESBURY ON CANADA K6A 1K7 TEL: 1-813-632-5200 www.dartincspace.com			
PATENT	US #5735484 / CA #2222184 / EURO #0828655		
P/N	D412-742-011	CHG	CHG007
DESC.	Float Skidtube	STC	SR01583SE
LOT	B116365	STC	SH05-37
MODEL	Bell 205/210/212/412/AB412	STC	

B147771

DQA: AWA Date: 09/22/2016

QA Closed: BLH Date: SEP 08 2016

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only



Work Order: <u>147771</u> Part No. <u>D412-742-011</u> NCR No.		DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																															
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Large Fab ☐	Composite ☐	Supplier ☐																																																																					
Date : <u>16/6/24</u>		Step #:		QTY Effective :			MRB (QSI042) Approval <u>DAS</u> <u>12</u> <u>9-89</u>																																																																
Description Work Order Deviation				Disposition			Completed By <u>16/6/24</u>																																																																
Replace red decal with one that references DS19733-011 kit.				Add "w/ DS19733-011" or similar note to red decal.			Lead hand / Supervisor Approval Verification																																																																
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OTHER :																																																																							

Work Order ID 147771

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147771

Page 2

Item ID: D412-742-011 Accept
Revision ID: URF 16-572
Item Name: Skidtube Fits LH or RH High Gear, DART (Apical) & OEM Cylin. Float Compatible
Start Date: 6/13/2016 Start Qty: 1.00 *1*
Required Date: 7/15/2016 Req'd Qty: 1.00 *1*
Reference: REWORK PER ECN 16-516

N900040100Setup Start ***NS1***Stop ***NS2***

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180		0.00							
180 HandFinish	Memo	0.00							
Hand Finishing	REWORK PER DSI 9733-011 AND TOUCH UP PAINT WHERE NECESSARY (AFT tube.)								
190	QC5- Inspect part completeness to step on W/O	0.00							
190 QC	Memo	0.00							
Quality Control									
200	Identify as per dwg & Stock Location: _____	0.00							
200 Packaging	Memo	0.00							
Packaging									

DAS
27
9-89

JUL 04 2016

DQA:

Date: 09/22/2016



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date: SEP 08 2016

Work Order update only



Work Order: 147771		DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. D412-742-011		Rework ☐		Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐		
NCR No.		Scrap ☐		Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐		
		Use-as-is ☐		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐		
		Suspected Unapproved ☐		Large Fab ☐	Composite ☐	Supplier ☐			
Date: 16/06/28		Step #: 191 ; 192		QTY Effective: 41			MRB (QSI042) Approval		
Description Work Order Deviation		Disposition			DAS 16 16/06/28 9-89				
#191 RE Assemble Aft / mid tube AND ENSURE that all holes line up		16/06/29			Completed By 16/06/29				
#192 insert OCS that complete tube is assembled as per drawing		DAS 9 9-89 16/06/30			Lead hand / Supervisor Approval Verification DAS 9 9-89 16/06/28				
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
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Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

Work Order ID 147771

Tuesday, June 14, 2016 11:21:26 AM

147771

Page 3

Item ID: D412-742-011 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 16-572 Stop ***NS2***
Item Name: Skidtube Fits LH or RH High Gear, DART (Apical) & OEM Cylin. Float Compatible
Start Date: 6/13/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 7/15/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference: REWORK PER ECN 16-516

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	QC21 - Final Inspection - Work Order Release	0.00							
210									
QC	Memo	0.00							
Quality Control									

DAS 21 9-89 **JUL 04 2016**

*** New PARTS Added:**

QTY	PART NO:	BATCH:
(16x)	AN3C-4A (bolts)	M134762
(16x)	NAS1149C0332R (washers)	M134962
(10x)	AN5C-7A (bolts)	M132930
(10x)	NAS1149C0532R (washers)	M134756

DAS 21 9-89**JUL 04 2016**

JUL 16 10 06 29

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Picklist Print

Tuesday, June 14, 2016 11:21:25 AM

Page 1

Work Order ID: 147771

147771

Parent Item: D412-742-011

D412-742-011

Parent Item Name: Skidtube Fits LH or RH High Gear, DART (Apical) & OEM Cylin. Float Compatible

Start Date: 6/13/2016

Required Date: 7/15/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev: A05.10.13New IssueKJ/JLM
 IPP Rev:B 06-06-08 As per DSI9336 JLM
 IPP Rev:C 07-05-28 As per Rev C JLM
 IPP rev D 07.11.01 ecn 1053P EC
 IPP rev E 07.11.27 ecn 1072 EC verified by:DD
 IPP Rev:F 08-09-08 ecn 08-510 DD verified by:EC
 IPP Rev:G 09-01-23 as per DSI9441 DD verified by:EC IPP Rev:H
 11.11.01 as per DSI9517 REV.B DD verified by:EC IPP rev:I 12.01.12
 PER IIN REV.E DD VERF:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D412-742-011		Manufactured	No				Each	2.0000		1			

D412-742-011

**

Skidtube Fits LH or RH High Gear, DART (Apical) & OEM Cylin. Float Compatible

Location

Loc Qty

Loc Code

FG

2

87615

1

91946

1

Each

0.0000

1

**

DSI 9733-011

Manufactured

No

DSI 9733-011

Skidtube Repair

Qty

Batch

(12)
(12)
(12)

134370
134782

(8)

134781

(11)

134181

Acceptable rivet length
substitution 9/16/14

16-6-29 JH

MS20601A D4W3

MS20601A D4W7

MS210 75LS

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D412-742 REV. E AND
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D412-742 REV. 4

REF FAA STC: SR01583SE

REF CANADIAN STC: SH05-37

REF EASA STC: EASA.IM.R.S.00126

1.0 PURPOSE

The purpose of this DART Service Instruction is to provide a repair procedure to replace spinning AELS-1032 inserts with MS21075L5 Floating Nut Plates on D412-742-011/-013 Float Skid tubes in locations where the D3391-013/-023 Mid Tube Assembly overlaps the D3391-015/-025 Aft Tube Assembly as shown in Figure 1.

This modification has been incorporated into D412-742-011 @ CHG008 and D412-742-013 @ CHG008

2.0 INSTALLATION

Note 1: Disassembly of the D3391-015/-025 Aft Tube Assembly from the D3391-013/-023 Mid Tube Assembly is required prior to completion of this repair. Disassemble in accordance with ICA-D12-742.

Note 2: When drilling holes for the Floating Nut Plate, DART recommendation is to use a Nut Plate Drill Jig to ensure drilled holes are well aligned and square for ease of installation.

- 2.1 Drill out AELS-1032 Inserts (Qty 10) located in D3391-015/-025 Aft Tube Assembly using a $\varnothing 0.375$ drill in locations shown in Figure 1. With reference to Note 2, add additional $\varnothing 0.129$ countersunk holes (Qty 2) per Detail A.
- 2.2 Increase the diameter of affected thru holes in D3391-013/-023 Mid Tube Assembly with a $\varnothing 0.375$ drill bit, as shown in Figure 1.
- 2.3 Touch up affected areas with chemical film material (Alodine 1200 or 1201) per MIL-C-5541.
- 2.4 Install MS21075L5 Nut Plate (Qty 10) using MS20801AD4W4 (Qty 12) in the six (6) most forward holes and MS20801AD4W9 (Qty 8) in the four (4) aft holes. It is acceptable to replace MS20801AD4 rivets with longer or shorter rivets as required.
- 2.5 Increase diameter of affected wearpad holes on D4095-043/-045 to $\varnothing 0.375$
- 2.6 Re-install D3391-015/-025 Aft Tube Assembly in accordance with ICA-D412-742 Section 32.9. Install D4095-043/-045 Wearshoes using AN5C7A Bolts (Qty 10) and NAS1149C0532R Washers (Qty 10) in locations corresponding to this modification.

147771

A	NEW ISSUE	WM	15.11.27
REV.	DESCRIPTION	BY	DATE
DESIGN	AP	DART AEROSPACE USA, INC EUGENE, OR	
DRAWN	WM		
CHECKED	ASS	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9733	SHEET 1 OF 3
APPROVED	CH	TITLE	SCALE
DE APPR.	CH	SKIDTUBE INSERT REPAIR	NTS
DATE	15.11.27	COPYRIGHT © 2015 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																																													
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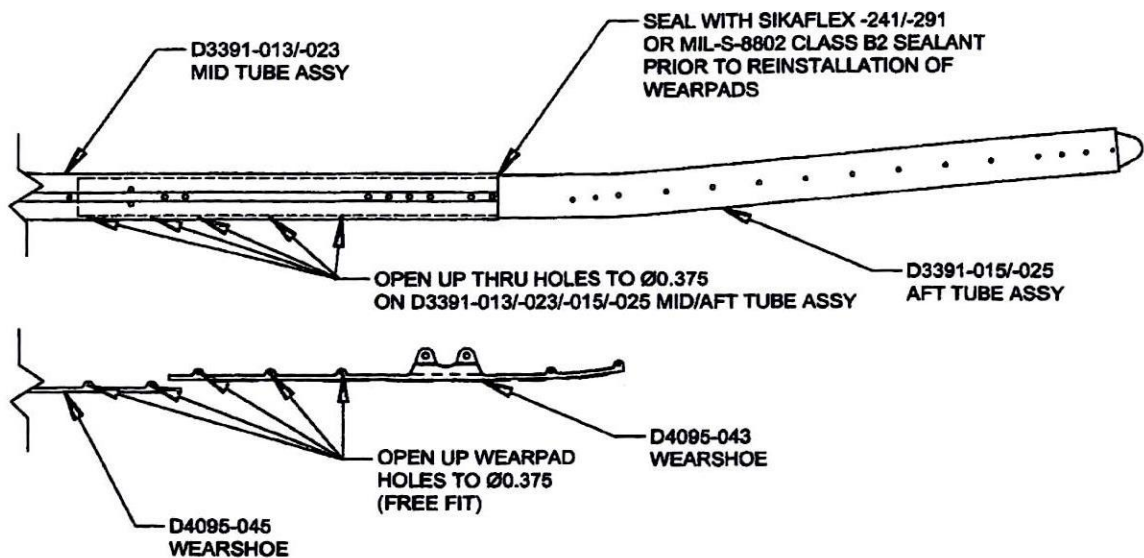
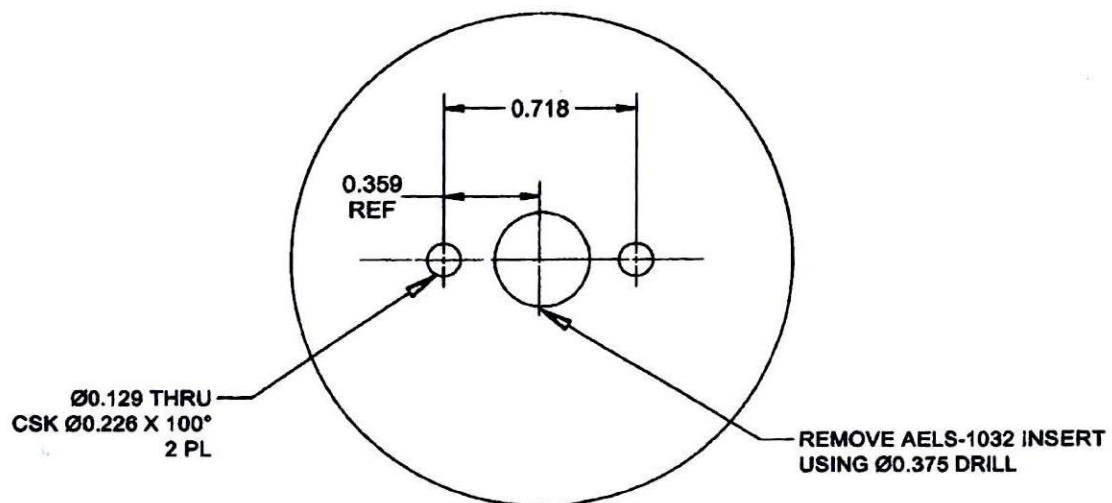


FIGURE 1 - AFFECTED LOCATIONS
(Aft section of D412-742-XXX Assy shown)



DETAIL A
(10 PLACES)

DESIGN	AP	DART AEROSPACE USA, INC EUGENE OREGON	
DRAWN	WM		
CHECKED	AS	DRAWING NO. DSI 9733	REV. A
MFG. APPR.	N/A	SHEET 2 OF 3	
APPROVED	DM	TITLE SKIDTUBE INSERT REPAIR	SCALE NTS
DE APPR.	HT	COPYRIGHT © 2015 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC	
DATE	15.11.27		

DQA: _____ Date: _____



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QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : ☐			

3.0 PARTS LIST

QTY -011	PART NUMBER	DESCRIPTION
10	DSI9733-011	SKIDTUBE REPAIR KIT
10	AN5C7A	BOLT
12	MS20601AD4W4	RIVET, BLIND
8	MS20601AD4W9	RIVET, BLIND
10	MS21075L5	NUT PLATE, FLOATING
10	NAS1149C0532R	WASHER

4.0 WEIGHT AND BALANCE

There is negligible weight and balance change associated with this modification.

DESIGN	AP	DART AEROSPACE USA, INC	
DRAWN	WM	EUGENE, OR	
CHECKED	ASS	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9733	SHEET 3 OF 3
APPROVED	QM	TITLE	SCALE
DE APPR.	SH	SKIDTUBE INSERT REPAIR	NTS
DATE	15.11.27	COPYRIGHT © 2015 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC	

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Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

List Lots

Page 1 of 1

Monday, June 13, 2016 2:39:48 PM

Criteria : Item ID: d412-742-011 All Locations All Warehouses All Quantity

Item ID Item Name	Warehouse ID Location ID	Lot Number	Last Trans Date	Lot Qty	Shelf Life Dt Lot Code	Type Code	Comments
D412-742-011 Skidtube Fits LH or RH High Gear, DART (Apical) & OEM Cylin. Float Compatible	Main Warehouse FG073	113896	5/3/2016	1.0000	QC21	CHG007	
	Main Warehouse FG073	116363 # 147771	5/3/2016	1.0000	QC21	CHG007	
	OFFSHORE FG	87615	5/3/2016	1.0000	QC21	CHG007	
	OFFSHORE FG	91946	5/3/2016	1.0000	QC21	CHG007	
			Total:	4.0000			

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OTHER : ☐					

Change Record

PAGE 1 OF 1

Part Number: D412-742-011

Description: FLOAT SKIDTUBE

[illegible]